



A.D. 1858, 3rd MARCH. N° 420.

SPECIFICATION

OF

JAMES GOWING AND HENRY BULL.

APPARATUS FOR THE PREVENTION OF
SMOKE, APPLICABLE TO TUBULAR BOILERS.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
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25, SOUTHAMPTON BUILDINGS, HOLBORN.



A.D. 1858, 3rd MARCH. N° 420.

Apparatus for the Prevention of Smoke, applicable to Tubular Boilers.

(This Invention received Provisional Protection, but notice to proceed with the application for Letters Patent was not given within the time prescribed by the Act.)

PROVISIONAL SPECIFICATION left by James Gowing and Henry Bull at the Office of the Commissioners of Patents, with their Petition, on the 3rd March 1858.

We, JAMES GOWING, of Poplar, in the County of Middlesex, Engineer,
5 and HENRY BULL, of Greenwich, in the County of Kent, Engineer, do hereby declare the nature of the said Invention for “IMPROVEMENTS IN APPARATUS FOR PREVENTING SMOKE, APPLICABLE TO TUBULAR BOILERS,” to be as follows:—

Our Invention consists, in the first place, in adapting and applying to tubular
boilers an arrangement of apparatus, by means of which air is made to pass,
10 either under pressure or otherwise, into a vertical pipe or channel at the hinder
end of the tubes, and issue from a series of perforated horizontal pipes con-
nected therewith, such horizontal pipes extending on each side from the central
vertical pipe or channel in lines between the several rows of tubes, and at
right angles thereto. By this means the air issuing through the perforations
15 in the said horizontal pipes will be directed on to the flame (above the line of
the flame bed or furnace bars) immediately before it enters the tubes.

The mode of supplying the air to the said vertical pipe may be varied, but we
propose to supply it by means of a similar vertical pipe fixed in the front
smoke box or at the front ends of the tubes communicating, when the air is
20 supplied under pressure with the blast pipe at the front of the smoke box, and
with the vertical pipe at the hinder end of the tubes; but when the air is

Gowing & Bull's Impts. for Preventing Smoke, applicable to Tubular Boilers.

supplied at a natural pressure it enters by the same pipe, the connection with the blast being cut off.

And our Invention consists, in the second place, in substituting for the vertical pipe or channel, and the perforated horizontal pipes in the back smoke box, a chamber at the top of this smoke box, and vertical perforated pipes 5 extending downwards therefrom and arranged between each row of tubes.

LONDON :

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1858.